

REMARKS

Claims 1-32 were presented for examination and all claims were rejected. In the current amendment, claims 1-6, 8, 10-14, 16-29 and 32 have been amended. Claim 31 is hereby canceled. No new matter has been introduced. Upon entry of the current amendment, claims 1-30 and 32 will be pending, of which claims 1 and 23 are independent. Applicants submit that claims 1-30 and 32 are patentable and in condition for allowance.

The following comments address all stated grounds of rejection. Applicants respectfully traverse all rejections and urge the Examiner to pass the claims to allowance in view of the remarks set forth below.

EXAMINER INTERVIEW

Applicants wish to thank Examiner Morrison for taking the time to conduct an interview via telephone on March 25, 2009 with Applicants' representative and for providing the interview summary for the interview. During the interview, Applicants' representative and the Examiner discussed proposed amendments to independent claims 1 and 23 and the cited art, U.S. Patent Publication No. 2006/0064697 to Kagi et al. ("Kagi") and Czajkowski et al., "A Multi-User Virtual Machine", Proc. of the USENIX 2003 Annual Technical Conference, 2003, pages 85-98 ("Czajkowski"). The Examiner indicated that the proposed amendments presented limitations not present in either Kagi or Czajkowski and that the claims overcame the rejections of record.

CLAIM REJECTIONS UNDER 35 U.S.C. §101

I. Claims 1-22 Rejected Under 35 U.S.C. §101

Claims 1-22 were rejected under 35 U.S.C. §101 as directed towards non-statutory subject matter. Claim 1 is an independent claim. Claims 2-22 depend on and incorporate all of the patentable subject matter of independent claim 1. The Examiner contended that claims 1-22 are non-statutory subject matter because they lack machine implementation. Applicants traverse this rejection and submit that claims 1-22, as amended, are directed to statutory subject matter.

Claim 1, as amended, recites a suitably programmed computer performing the steps of redirecting to an isolation environment a request by an executing process to access a native resource stored in a memory element, locating in the memory element an instance of the resource associated with a user isolation scope, and responding to the request with the instance of the

resource associated with the user isolation scope. The steps recited by claim 1 are executed by the suitably programmed computer to realize this functionality and therefore recite statutory subject matter.

For at least the above discussed reasons, Applicants submit that the subject matter of amended claim 1 is directed to statutory subject matter. Claims 2-22 depend on and incorporate all of the patentable subject matter of independent claim 1. Correspondingly, claims 2-22 are also directed to statutory subject matter. Accordingly, Applicants request the Examiner to reconsider and withdraw the rejection of claims 1-22 under 35 U.S.C. §101.

II. Claims 23-32 Rejected Under 35 U.S.C. §101

Claims 23-32 were rejected under 35 U.S.C. §101 as directed towards non-statutory subject matter. Claim 23 is an independent claim. Claims 24-32 depend on and incorporate all of the patentable subject matter of independent claim 23. Applicants hereby cancel claim 31, mooted the rejection with respect to that claim. Applicants have amended claims 23-30 and 32 to directly recite an “apparatus” having “computer-readable program means” and respectfully submit that this subject matter is within the statutory categories enumerated by 35 U.S.C. §101. Accordingly, Applicants request the Examiner to reconsider and withdraw the rejection of claims 23-30 and 32 under 35 U.S.C. §101.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

III. Claim 23 as Anticipated by Kagi

Claim 23 was rejected as anticipated by U.S. Patent Publication No. 2006/0064697 to Kagi et al. (“Kagi”) under 35 U.S.C. §102(e). Claim 23 is an amended independent claim. Applicants traverse this rejection to the extent it is maintained over the claim as amended and submit that Kagi fails to disclose each and every element of claim 23.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. As amended, independent claim 23 is directed towards an apparatus comprising computer-readable program means for intercepting a request for a native resource and redirecting the request to an instance of the resource associated with a user isolation scope provided by an application isolation environment,

comprising an application isolation layer and a user isolation layer. Kagi fails to disclose each and every element of the claimed invention as amended.

As discussed with the Examiner, Kagi does not disclose a means for redirecting a request for a native resource to an instance of the resource associated with a user isolation scope provided by a user isolation layer of an isolation environment. Kagi describes a method of scheduling virtual machine access to native physical I/O resources, specifically “physical hardware device[s] in the physical machine” (see Kagi, paragraphs 2, 4, 19, and 22). In Kagi, the virtual machines issue I/O instructions directly to the actual physical devices on the system (see paragraph 21), and Kagi merely provides a scheduling process for flow control to keep instructions from multiple virtual machines from interfering (see paragraph 24). In fact, once executed, requests still dispatch to the same physical device on the system. Therefore, Kagi fails to disclose redirecting a request to an instance of a resource associated with a user isolation scope. This is understandable, because Kagi’s resources are physical I/O devices shared by all virtual machines, thus needing flow control rather than redirection to a nonphysical instance of a resource specifically associated with a user isolation scope.

For at least the above-discussed reasons, Kagi fails to disclose each and every element of independent claim 23, as amended. Thus, Applicants submit independent claim 23, as amended, is patentable over Kagi. Accordingly, Applicants request the Examiner to reconsider and withdraw the rejection of claim 23 under 35 U.S.C. §102.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

IV. Claims 1-22 Rejected under 35 USC §103(a)

Claims 1-22 were rejected as unpatentable over Kagi in view of Czajkowski et al., “A Multi-User Virtual Machine”, Proc. of the USENIX 2003 Annual Technical Conference, 2003, pages 85-98 (“Czajkowski”). Claim 1 is an independent claim. Claims 2-22 depend on and incorporate all of the patentable subject matter of independent claim 1, as amended. Applicants traverse these rejections and submit that Kagi and Czajkowski, alone or in combination, fail to teach or suggest each and every feature of the claimed invention, as amended.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. Amended claim 1 is directed towards a method of responding to a request for a native resource with an instance of the resource associated with a

user isolation scope provided by an application isolation environment, comprising an application isolation layer and a user isolation layer. Kagi and Czajkowski, alone or in combination, fail to teach or suggest each and every element of the claimed invention, as amended.

Neither Kagi nor Czajkowski teach or suggest responding to a request for a native resource with an instance of the resource associated with a user isolation scope. As discussed above in connection with the rejection of independent claim 23, Kagi merely discloses a buffer for flow control of requests from virtual machines to access physical I/O devices and fails to teach or suggest responding to a request with an instance of a resource associated with a user isolation scope.

As discussed with the Examiner, Czajkowski also does not teach or suggest responding to a request for a native resource with an instance of the resource associated with a user isolation scope. Instead, Czajkowski merely utilizes standard UNIX access control mechanisms to either allow or deny access to native resources based on user id (see Czajkowski, section 3.1, paragraph 3). Czajkowski, like Kagi, only responds to requests with the native resource requested, merely subject to user privileges. This is not a user isolation scope, which is a unique view of native resources provided by a user isolation layer (see specification, section 1.2, paragraph 1). Thus, one of ordinary skill in the art guided by Czajkowski or Kagi, alone or in combination, would be guided only towards methods of responding to a request for a native resource with the same native resource, subject to scheduling and privileges, and not any other instances of the resource.

Because Kagi and Czajkowski, alone or in combination, fail to teach or suggest each and every element of the claimed invention, Applicants submit that independent claim 1 is patentable and in condition for allowance. Claims 2-22 depend on and incorporate all of the patentable subject matter of independent claim 1. Thus, Applicants submit that claims 2-22 are also patentable and in condition for allowance. Therefore, Applicants request the Examiner to withdraw the rejection of claims 1-22 under 35 U.S.C. §103.

IV. Claims 24-32 Rejected under 35 USC §103(a)

Claims 24-32 were rejected as unpatentable over Kagi in view of Czajkowski. Claim 31 is hereby canceled, mooted this rejection with respect to that claim. Claims 24-30 and 32 depend on and incorporate all of the patentable subject matter of independent claim 23. The arguments made immediately above with respect to Kagi and Czajkowski apply with equal force

here and are reiterated as if set forth in full. Applicants traverse the rejection of claims 24-30 and 32 over Kagi and Czajkowski, alone or in combination, for the reasons stated above.

CONCLUSION

In light of the aforementioned arguments, Applicants contend that each of the Examiner's rejections has been adequately addressed and all of the pending claims are in condition for allowance. Accordingly, Applicants respectfully request reconsideration, withdrawal of all grounds of rejection, and allowance of all of the pending claims.

Should the Examiner feel that a telephone conference with Applicants' attorney would expedite prosecution of this application, the Examiner is urged to contact the Applicants' attorney at the telephone number identified below.

Respectfully submitted,

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